



## VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

### LAKE SUNAPEE, BLODGETT BROOK SUB-WATERSHED

#### 2015 DATA SUMMARY

**RECOMMENDED ACTIONS:** Water quality at all stations was generally within a low to average ranges for surface waters. Conduct chloride monitoring at Stn. 788 to assess impacts of winter road salting. Data suggest a tributary system with moderate dissolved organic matter that contributes to darker or tea colored water which can also contribute to phosphorus and turbidity. Keep up the great work!

#### OBSERVATIONS AND RECOMMENDATIONS *(Refer to Table 1 and Historical Deep Spot Data Graphics)*

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity levels from Stn. 1115 (upstream) to Stn. 790 (downstream) do not change significantly and are approximately equal to the state median. However, conductivity levels at Stn. 788 were slightly elevated and greater than the state median. Conductivity levels generally increased at all stations as the summer progressed and stream flows decreased.
- ◆ **TOTAL PHOSPHORUS:** Average phosphorus levels at Stns. 1115 and 788 decreased slightly in 2015 and were within a low to average range. Average phosphorus levels at Stns. 790, 790.2 and 790.4 increased slightly in 2015 but remained within an average range for those stations. Phosphorus levels were slightly higher in August and September at Stns. 788, 790, 790.2, and 790.4. A significant storm event in August prior to sampling Stns. 788 and 790 may have contributed to the phosphorus, however dry conditions preceded August sampling at Stns. 790.2 and 790.4. The samples were noted to have a moderate color indicating waters rich in organic content. Low flow conditions in September likely contributed to the higher phosphorus levels at all stations.
- ◆ **TURBIDITY:** Turbidities were within a low to average range on each sampling event at Stns. 788, 790.4 and 1115. Turbidity was slightly elevated in June at Stn. 790 following a storm event and the sample contained high amounts of sediment. Turbidity was slightly elevated in October at Stn. 790.2 potentially due to water high in dissolved organic matter. Turbidities were within low to average ranges at both stations on all other sampling event.
- ◆ **pH:** pH levels at Stns. 788, 790.2, 790.4, and 1115 generally fluctuated below the desirable range 6.5-8.0 units. However pH levels at Stn. 790 were generally within the desirable range and pH levels generally improved from upstream to downstream.

Table 1. 2015 Average Water Quality Data for Blodgett Brook Sub-Watershed

Sub-Watershed Name	Station Name	Cond.	Total P	Turb.	pH
		uS/cm	ug/l	ntu	
Blodgett Brook (S. Branch)	788	124.8	12	0.63	6.57
Blodgett Brook (N. Branch)	790	52.4	17	1.58	6.65
Blodgett Brook	790.2	39.5	15	1.07	6.33
Blodgett Brook (S. County Rd.)	790.4	34.7	14	0.63	6.09
Chalk Pond Outlet	1115	49.6	6	0.61	6.50

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)



# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

## LAKE SUNAPEE, CHANDLER BROOK AND JOHNSON BROOK SUB-WATERSHEDS

### 2015 DATA SUMMARY

**RECOMMENDED ACTIONS:** Conduct chloride monitoring to assess the contributions of road salt on conductivity levels. Water quality was good in 2015 and the dry conditions and lack of stormwater runoff may have contributed to the good quality. Consider becoming a Partner with Soak Up the Rain NH. For more information visit [www.soaknh.org](http://www.soaknh.org). Volunteers noted severe bank erosion at Stn. 680. Investigate potential methods to stabilize stream banks to reduce erosion during significant storm events. Keep up the great work!

#### OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity levels were slightly elevated and greater than the state median at Stns. 670, 670.5 and 680. Conductivity levels at Stns. 670 and 680 were particularly elevated in August and September when flows were low. Conductivity levels at Stn. 675 were within a low range from May to July, increased significantly in August and September when flow conditions were lowest, and then decreased in October, and average conductivity was slightly greater than the state median.
- ◆ **TOTAL PHOSPHORUS:** Phosphorus levels were generally stable and in a low to average range at all Stns. on each sampling event. Phosphorus levels were higher at Stn. 670.5 exiting Mountainview Lake, decreased at Stns. 680 and 675, and then increased slightly at the most downstream Stn. 670.
- ◆ **TURBIDITY:** Average turbidity decreased from 2014 at Stns. 670, 670.5 and 675 and turbidity was generally within low to average ranges and was higher when tributary flows were low. Turbidity at Stn. 680 was elevated in July during a rain event but was within low to average ranges on all other sampling events.
- ◆ **pH:** pH levels at all Stns. fluctuated below the desirable range 6.5-8.0 units on at least one sampling event, generally in May and June following spring snowmelt. pH levels generally recovered to within the desirable range from July through October.

Table 1. 2015 Average Water Quality Data for Chandler & Johnson Brooks					
Sub-Watershed Name	Station Name	Cond.	Total P	Turb.	pH
		uS/cm	ug/l	ntu	
Chandler Brook	670	165.0	10	1.32	6.66
Chandler Brook	670.5	136.2	13	1.36	6.35
Chandler Brook (Beck Brook)	680	132.8	6	1.91	6.73
Johnson Brook	675	63.2	6	0.52	6.58

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)



## VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

### LAKE SUNAPEE, HERRICK COVE SUB-WATERSHED

#### 2015 DATA SUMMARY

**RECOMMENDED ACTIONS:** Conductivity has significantly increased at Stns. 830, 830.15 and 835 since monitoring began. Conduct chloride monitoring at all stations to assess the contribution of road salt on the elevated conductivities. Total phosphorus has significantly increased at Stn. 830 since monitoring began, and was particularly high from 2005-2011, however since 2012 phosphorus levels have remained lower. Monitors note significant amount of deadfall and debris in the stream bed at this station which is likely contributing to elevated phosphorus, turbidity and lower pH. Consider obtaining a Wetlands Permit to remove debris from the tributary if deemed necessary to return the site to a more natural state. The increased frequency and intensity of storm events highlights the importance of managing stormwater runoff, particularly from major highways and roadways and to ensure culverts are sized properly to handle large storm events.

**OBSERVATIONS AND RECOMMENDATIONS** (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity levels were elevated and much greater than the state median at all stations. Stn. 835 conductivity levels were much greater than the other stations likely due to road salt contributions from major roadways.
- ◆ **TOTAL PHOSPHORUS:** Average phosphorus levels at all stations decreased from that measured 2014. Phosphorus levels at Stn. 830 were average in May, June, July, and October during low flows, however they were elevated in August following a storm event and water was noted as murky. Phosphorus levels at Stn. 830.15 were average in June and elevated in July and August during low flows. Phosphorus levels were stable and low at Stn. 835 on each sampling event. Phosphorus levels have remained lower since 2012 at Stns. 830 and 830.15 however have generally remained higher and more variable at Stn. 835.
- ◆ **TURBIDITY:** Turbidity levels at Stn. 830 were elevated on each sampling event, particularly in August following storm event and water was noted as murky. Laboratory data sheets often note organics and sediment in the samples. Average turbidity levels at Stn. 830 have remained in a higher range since 2002. Turbidity levels at Stn. 830.15 were low in June and elevated in July and August during low flows and following storm event in August. Turbidity levels at Stn. 835 were within low to average ranges on each sampling event.
- ◆ **pH:** pH levels were less than the desirable range 6.5-8.0 units at Stn. 830, 830.15 on each sampling event. pH levels at Stn. 835 were within the desirable range on each sampling event.

Table 1. 2015 Average Water Quality Data for Herrick Cove Sub-Watershed

Sub-Watershed Name	Station Name	Cond.	Total P	Turb.	pH
		uS/cm	ug/l	ntu	
Herrick Cove South	830	515.9	23	5.44	6.25
Herrick Cove South	830.15	530.4	24	6.26	6.26
Herrick Cove North	835	1048.1	6	0.67	6.75

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)



## VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

### LAKE SUNAPEE, LITTLE SUNAPEE LAKE SUB-WATERSHED

#### 2015 DATA SUMMARY

**RECOMMENDED ACTIONS:** Conductivity levels at Stns. 1415 and 1418 are being monitored and addressed when possible; keep up the great work! Water conditions were often noted as being brown with sediment and organic matter suggesting that potential wetland influences and/or streams with high organic content and leaching of tannic and humic acids cause fluctuations in phosphorus, pH and turbidity levels. Encourage state road agents to install a beaver pipe at Stn. 1415 to allow constant water flow through the beaver dam. This would likely solve the fluctuating levels and water quality at the site, allow the beaver to stay, and decrease personnel time and cost to continually remove the dam. This can also successfully be installed by volunteers. Visit [www.beaverdeceivers.com/](http://www.beaverdeceivers.com/) for more information. Keep up the great work!

#### OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity was stable and low at Stn. 1410.5 and was much less than the state median. Conductivity was slightly elevated and greater than the state median at Stn. 1420. Conductivity was elevated and much greater than the state median at Stns. 1415 and 1418. These stations receive runoff from roadways and a salt storage facility. Management efforts are currently underway to reduce conductivity at these stations.
- ◆ **TOTAL PHOSPHORUS:** Phosphorus levels at Stn. 1410.5 were average except for the July sampling event, when phosphorus levels spiked. Laboratory checklists noted high sediment in the sample which likely contributed to the phosphorus level. Phosphorus levels at Stn. 1415 were low in May and June, spiked to elevated levels in July, and then decreased to average levels in August and October. Field data note beaver activity at this site that affects flow and water quality periodically. Phosphorus levels at Stn. 1418 were average in June and elevated in July and October. Laboratory checklists note the July sample was highly colored and contained sediment and the October sample was also colored indicating water rich in organic content. Phosphorus levels at Stn. 1420 were within a low range on each sampling event.
- ◆ **TURBIDITY:** Turbidity was slightly elevated in July at Stn. 1410.5 from sediment; turbidity was within a low range on all other sampling events. Turbidity was low to average from May to June at Stn. 1415, elevated from July through September, and decreased to average levels in October. Turbidity was generally within an average range on each sampling event at Stn. 1418. Turbidity was low on each sampling event at Stn. 1420.
- ◆ **pH:** pH levels at Stn. 1418 were less than the desirable range 6.5-8.0 units. pH levels fluctuated below the desirable range at Stn. 1410.5 but average pH levels were within the desirable range. pH levels were within the desirable range on each sampling event at Stns. 1415 and 1420.

Table 1. 2015 Average Water Quality Data for Little Lake Sunapee Sub-Watershed

Sub-Watershed Name	Station Name	Cond.	Total P	Turb.	pH
		uS/cm	ug/l	ntu	
Kidder Brook Upstream	1410.5	21.0	14	1.04	6.54
Bucklin Beach Brook	1415	503.9	18	5.09	6.67
Murray Pond Outlet	1418	404.8	27	1.41	6.03
Little Lake Sunapee Outlet	1420	87.2	7	0.66	6.53

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)



## VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

### LAKE SUNAPEE, LITTLE SUNAPEE LAKE SUB-WATERSHED

#### 2015 DATA SUMMARY

**RECOMMENDED ACTIONS:** Conductivity levels at Stns. 1415 and 1418 are being monitored and addressed when possible; keep up the great work! Water conditions were often noted as being brown with sediment and organic matter suggesting that potential wetland influences and/or streams with high organic content and leaching of tannic and humic acids cause fluctuations in phosphorus, pH and turbidity levels. Encourage state road agents to install a beaver pipe at Stn. 1415 to allow constant water flow through the beaver dam. This would likely solve the fluctuating levels and water quality at the site, allow the beaver to stay, and decrease personnel time and cost to continually remove the dam. This can also successfully be installed by volunteers. Visit [www.beaverdeceivers.com/](http://www.beaverdeceivers.com/) for more information. Keep up the great work!

#### OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity was stable and low at Stn. 1410.5 and was much less than the state median. Conductivity was slightly elevated and greater than the state median at Stn. 1420. Conductivity was elevated and much greater than the state median at Stns. 1415 and 1418. These stations receive runoff from roadways and a salt storage facility. Management efforts are currently underway to reduce conductivity at these stations.
- ◆ **TOTAL PHOSPHORUS:** Phosphorus levels at Stn. 1410.5 were average except for the July sampling event, when phosphorus levels spiked. Laboratory checklists noted high sediment in the sample which likely contributed to the phosphorus level. Phosphorus levels at Stn. 1415 were low in May and June, spiked to elevated levels in July, and then decreased to average levels in August and October. Field data note beaver activity at this site that affects flow and water quality periodically. Phosphorus levels at Stn. 1418 were average in June and elevated in July and October. Laboratory checklists note the July sample was highly colored and contained sediment and the October sample was also colored indicating water rich in organic content. Phosphorus levels at Stn. 1420 were within a low range on each sampling event.
- ◆ **TURBIDITY:** Turbidity was slightly elevated in July at Stn. 1410.5 from sediment; turbidity was within a low range on all other sampling events. Turbidity was low to average from May to June at Stn. 1415, elevated from July through September, and decreased to average levels in October. Turbidity was generally within an average range on each sampling event at Stn. 1418. Turbidity was low on each sampling event at Stn. 1420.
- ◆ **pH:** pH levels at Stn. 1418 were less than the desirable range 6.5-8.0 units. pH levels fluctuated below the desirable range at Stn. 1410.5 but average pH levels were within the desirable range. pH levels were within the desirable range on each sampling event at Stns. 1415 and 1420.

Table 1. 2015 Average Water Quality Data for Little Lake Sunapee Sub-Watershed

Sub-Watershed Name	Station Name	Cond.	Total P	Turb.	pH
		uS/cm	ug/l	ntu	
Kidder Brook Upstream	1410.5	21.0	14	1.04	6.54
Bucklin Beach Brook	1415	503.9	18	5.09	6.67
Murray Pond Outlet	1418	404.8	27	1.41	6.03
Little Lake Sunapee Outlet	1420	87.2	7	0.66	6.53

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)



## VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

### LAKE SUNAPEE, NEWBURY INLET, CUNNINGHAM & BARTLETT BROOK SUB-WATERSHEDS

#### 2015 DATA SUMMARY

**RECOMMENDED ACTIONS:** Water quality was generally within low to average ranges at all stations. Stn. 720.1 experienced elevated conductivity in May and June likely due to spring snow melt and runoff. Add chloride monitoring to Stn. 720.1 to assess any potential impacts from road salting. The dry weather conditions in 2015 likely helped to keep phosphorus and turbidity levels low in the tributaries. This highlights the importance of managing stormwater water runoff in tributary sub-watersheds. Keep up the great work!

**OBSERVATIONS AND RECOMMENDATIONS** (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity levels were slightly elevated at Stn. 720.1, particularly in May, June and August. Average conductivity levels are slightly greater than the state median. Conductivity levels were low and less than the state median at Stn. 760. Conductivity levels were average and slightly greater than the state median at Stn. 750.
- ◆ **TOTAL PHOSPHORUS:** Phosphorus levels at Stn. 720.1 were within an average range and remained stable from May to October. Phosphorus levels at Stn. 750 were within a low range from May to early August, but increased to an average level in late August during low flows and a small amount of organic matter was noted in the sample. Phosphorus levels at Stn. 760 were stable and low from May to July and then increased to an average level in August during low flow conditions.
- ◆ **TURBIDITY:** Turbidity at Stn. 720.1 was slightly elevated in August and September during low flow conditions. Laboratory checklists note water with moderate color content and during low flows this can affect turbidity. Turbidity at Stns. 750 and 760 remained low on each sampling event.
- ◆ **pH:** pH levels at Stn. 720.1 were less than the desirable range 6.5-8.0 units and slightly acidic on each sampling event. pH levels at Stns. 750 and 760 fluctuated below the desirable range in late June and August.

Table 1. 2015 Average Water Quality Data for Newbury Inlet, Cunningham & Bartlett Brook Sub-Watersheds

Sub-Watershed Name	Station Name	Cond.	Total P	Turb.	pH
		uS/cm	ug/l	ntu	
Newbury Inlet	720.1	86.4	16	1.95	6.05
Cunningham Brook	750	66.1	8	0.46	6.41
Bartlett Brook	760	25.5	10	0.51	6.31

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)





# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

## LAKE SUNAPEE, OTTER POND, LEDGE POND & EAGLE ROCK BROOKS, JOBS CREEK & OUTLET SUB-WATERSHEDS

### 2015 DATA SUMMARY

- ◆ **RECOMMENDED ACTIONS:** Conduct chloride monitoring at Stn. 515.1 to establish a baseline data set and assess the impacts of road salting on tributary conductivity levels. Field data sheets note sand accumulation from winter road maintenance along the stream bank. Encourage local and state road agents to annually remove any sand accumulation from winter road sanding/salting in the spring. This may help decrease conductivity as well as decrease phosphorus and turbidity levels after significant storm events. The dry conditions and lack of stormwater runoff in 2015 likely contributed to the good water quality. This highlights the importance of stormwater management in the tributary sub-watersheds. Consider partnering with Soak Up the Rain NH to identify and implement stormwater management projects. Keep up the great work!

#### OBSERVATIONS AND RECOMMENDATIONS *(Refer to Table 1 and Historical Deep Spot Data Graphics)*

- ◆ **CONDUCTIVITY/CHLORIDE:** Average conductivity levels increased at all stations in 2015 likely due to the severe winter and spring snow melt and runoff. Conductivity was slightly elevated and greater than the state median at Stns. 505, 510 and 610 and remained relatively stable from May to October. Conductivity at Stn. 515.1 increased greatly from 2014, was elevated and much greater than the state median potentially due to iron deposits as well as local road salting. Stn. 540 conductivity was stable and low and less than the state median.
- ◆ **TOTAL PHOSPHORUS:** Average phosphorus levels decreased or remained stable from 2014 at Stns. 505, 510, 515.1 and 610. Phosphorus levels were low and remained relatively stable from May to October. Phosphorus levels at Stn. 540 were slightly elevated in May and July, increased to elevated levels in September, and then decreased to low levels in October. A light amount of sediment was noted in most samples, however in September, organic matter was noted in the sample which likely caused the spike in phosphorus.
- ◆ **TURBIDITY:** Turbidities were within low to average ranges from May to October at Stns. 505, 510, 515.1, and 610. Turbidity was slightly elevated at Stn. 540 in September and October and organic matter was noted in the September sample, and potentially due to a storm event prior to the October sampling.
- ◆ **PH:** pH levels were generally within the desirable range 6.5—8.0 units at Stns. 505, 510, 515, and 610. pH levels at Stn. 540 pH levels were less than desirable and slightly acidic.

Table 1. 2015 Average Water Quality Data for Otter Pond, Ledge Pond & Eagle Rock Brooks, Jobs Creek, Outlet

		Cond.	Total P	Turb.	pH
Sub-Watershed Name	Station Name	uS/cm	ug/l	ntu	
Otter Pond Brook	505	145.7	6	0.94	6.70
Ledge Pond/Muzzey Brook	510	197.0	6	0.45	6.67
Eagle Rock Brook	515.1	811.3	6	0.63	6.57
Jobs Creek	540	36.6	27	1.66	5.82
Outlet	610	95.9	5	0.47	6.59

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)



## VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

### LAKE SUNAPEE, PIKE BROOK SUB-WATERSHED

#### 2015 DATA SUMMARY

- ◆ **RECOMMENDED ACTIONS:** Water quality was good in 2015 and the dry conditions and lack of stormwater runoff in 2015 likely contributed to the good water quality. Historical data note tea colored water in the tributary system following rain events indicating flushing of wetland or other systems high in tannic, humic and fulvic acids which could affect pH levels, phosphorus and turbidity. Keep up the great work!

#### **OBSERVATIONS AND RECOMMENDATIONS** (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CONDUCTIVITY/CHLORIDE:** Conductivity levels were slightly greater than the state median in Pike Brook and increased slightly from the upstream 800.8 to the downstream 800 stations. Conductivity levels were higher in August and September when tributary flows were low. Conductivity levels in King Hill Brook were slightly greater than the state median in May and October.
- ◆ **TOTAL PHOSPHORUS:** Pike Brook Stn. 800 phosphorus levels were slightly elevated in July and August during low flows and sediment was noted in the samples, however phosphorus levels remained within an average range on all other sampling events. Stns. 800.5, 800.8 and 805 phosphorus levels were within a low to average range on each sampling event. Average phosphorus levels decreased from 2014 at all stations except 800.
- ◆ **TURBIDITY:** Turbidities at all Stns. remained within low to average ranges from May to October and average turbidities decreased from 2014.
- ◆ **pH:** pH levels at all stations fluctuated within and below the desirable range 6.5-8.0 units.

Table 1. 2015 Average Water Quality Data for PIKE BROOK SUB-WATERSHED

Sub-Watershed Name	Station Name	Cond. uS/cm	Total P ug/l	Turb. ntu	pH
Pike Brook	800	74.4	18	0.82	6.56
Pike Brook	800.5	59.4	10	0.66	6.33
Pike Brook	800.8	58.3	10	0.76	6.42
King Hill Brook	805	87.8	12	0.67	6.45

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** > 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** between 6.5-8.0 (unless naturally occurring)